

The Divergent Impact of Artificial Intelligence on the Accounting and Auditing Profession - A Survey Study

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Abstract : This study aimed to shed light on the concept of artificial intelligence (AI) and its various applications in accounting and auditing, as well as to analyze the effects of these intelligent technologies on accounting and auditing practices. To achieve the study's objectives, a questionnaire was used as the primary research tool, resulting in 82 valid responses that were statistically analyzed using the SPSS V25. The findings revealed that AI applications have numerous statistically significant positive effects on the accounting and auditing profession, mainly reflected in the speed of task completion, improved quality and accuracy of outputs, and enhanced ability to detect fraud. Conversely, the results also indicated the existence of potential challenges and negative impacts, particularly those related to cybersecurity risks.

Keywords: Artificial Intelligence, Digital Transformation, Digital Accounting, Electronic Auditing.

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1. Introduction

Today, the world is witnessing profound transformations driven by the digital revolution and the rapid advancements in artificial intelligence (AI), which has emerged as one of the most prominent tools of change across various economic and professional sectors. The accounting and auditing profession has not been immune to these shifts, as AI applications have emerged as an effective mechanism for reshaping and modernizing traditional practices to align with the requirements of the contemporary digital economy. These applications have become capable of automating many routine processes, improving the quality and accuracy of financial information, facilitating audit procedures, and enabling the early detection of fraud, thereby opening new horizons for accountants and auditors to focus on other value-added tasks.

However, this positive transformation is accompanied by a set of challenges and risks that may raise concerns among professionals in the field of accounting and auditing, despite the clear advantages of intelligent applications. The most prominent of these concerns relate to data privacy protection systems and cybersecurity.

Accordingly, the topic of the impacts of AI on the accounting and auditing profession is of great importance, as it seeks to explore both the opportunities and benefits offered by these applications on the one hand, and to investigate the challenges and risks that may hinder their effective adoption on the other, within the framework of pursuing a balanced approach that maximizes benefits while minimizing risks.

In light of the above, the main research problem of this study can be formulated as follows: **How do artificial intelligence applications affect the accounting and auditing profession? And what are the key opportunities and challenges associated with their adoption in the professional environment?**

To answer the research problem, the following sub-questions can be raised:

- Does the use of (AI) applications have a positive impact on the accounting and auditing profession? And if so, what are the main aspects of these effects?
- Do (AI) applications have negative implications for the accounting and auditing profession? And If so, what are the main aspects of these implications?
- Are there statistically significant differences in the responses of the study sample attributable to variations in their demographic characteristics?

In order to address the main research problem and the sub-questions of the study, the following hypotheses were formulated:

- **First Hypothesis (H₁):** Artificial intelligence applications have tangible positive impacts on the quality and efficiency of accounting and auditing work.
- **Second Hypothesis (H₂):** There are negative impacts and challenges associated with the use of artificial intelligence applications in the profession.
- **Third Hypothesis (H₃):** There are statistically significant differences among the professional groups (external auditors, internal auditors, accountants, academics) in their evaluation of the positive and negative impacts.
- **Sub-hypothesis 1:** There are statistically significant differences in the responses of the study sample to the statements of the first axis attributable to variations in their demographic characteristics.

- **Sub-hypothesis 2:** There are statistically significant differences in the responses of the study sample to the statements of the second axis attributable to variations in their demographic characteristics.

The importance of this topic stems from the profound transformations the world is currently witnessing in various fields, driven by the digital revolution and the growing reliance on artificial intelligence technologies across multiple sectors, including the accounting and auditing profession. These applications have become a crucial tool for improving the quality of financial information, enhancing operational efficiency, and enabling the early detection of errors and fraud. However, this development raises several professional and ethical questions and challenges, particularly those related to data security, the loss of certain traditional jobs, and the lack of transparency in interpreting algorithmic results. Accordingly, the significance of this study lies in its attempt to enrich the accounting and auditing literature with a recent field investigation that sheds light on artificial intelligence as a global trend that has gained a prominent place in the business landscape.

Moreover, it aims to assist practitioners and decision-makers in adopting the most effective approaches for utilizing artificial intelligence applications while establishing guidelines to minimize their associated risks.

The aim of this study is to address a contemporary and vital topic, namely the impacts of artificial intelligence applications on the accounting and auditing profession, by achieving a set of primary and secondary objectives, which can be summarized as follows:

- **Analyzing the current state of knowledge and awareness** of artificial intelligence applications among practitioners and academics in the field of accounting and auditing, and assessing their readiness to adopt this technology.
- **Exploring the main practical uses** of artificial intelligence in accounting and auditing practices, such as process automation, preparation of financial reports, and so on.
- **Highlighting the positive impacts** of these applications in improving the quality of accounting information, enhancing performance efficiency, strengthening transparency, and supporting decision-making.
- **Identifying and examining the negative impacts and challenges** associated with the use of artificial intelligence, including risks of job loss, difficulties in adapting to new technologies, data security issues, and the lack of interpretability of algorithmic outputs.
- **Comparing different professional groups** (external auditors, internal auditors, accountants, academics) to determine the extent of variation in their perceptions of the advantages and disadvantages of artificial intelligence.

This study relied in its theoretical part on the descriptive method, as it is the most appropriate for examining social and economic phenomena. This approach allows for a detailed description of the concept of artificial intelligence and its various applications and effects on the professions of accounting and auditing.

As for the applied part, represented by the survey study, the analytical method was employed through the analysis of the obtained results using the SPSS V25.

2. Overview of Digital Transformation and Artificial Intelligence

We present below the key concepts related to digital transformation and artificial intelligence (AI).

2.1.The Concept of Digital Transformation

Digital transformation is defined as the process of reimagining or reinventing the cultural, organizational, and operational aspects of an institution, industry, or system by leveraging digital technologies and processes to build new systems, foster a digital mindset, and capitalize on emerging opportunities. (Berhouma & Habi , 2023, p. 684)

In the accounting and auditing context, digital transformation represents a strategic shift toward integrating artificial intelligence tools to perform accounting and auditing tasks. This integration contributes to enhancing the quality of financial information, accelerating transactions, increasing transparency and accountability, and reducing instances of fraud.

2.2.Definition of Artificial Intelligence

Defining the concept of artificial intelligence (AI) is not an easy task. Since its emergence in the mid-20th century as an independent field of research, it has always represented a constantly evolving and expanding domain, making it impossible to confine within a specific scope of study. In fact, AI does not clearly refer to a well-defined discipline as much as it expresses a program built around an ambitious objective.(Roussi, 2022, p. 159)

Here are some definitions related to artificial intelligence, among which we mention the following:

Artificial intelligence is defined as: “The ability of a machine to perform activities that are usually expected only from the human brain. These activities include the capacity for knowledge, the ability to acquire it, the ability to judge, to understand relationships, and to generate original ideas. Artificial intelligence is therefore considered an intelligent machine capable of interacting in ways similar to humans, and thus is viewed as a simulation of the human brain.”(Ahmed Al-Aani & Ali Kazem, 2023, p. 163)

According to the (Oxford Dictionary): artificial intelligence is defined as “ The theory and development of computer systems capable of performing tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making and translation between languages” . (Seffahlou, 2024, p. 140)

It is also defined as: “A branch of computer science that focuses on designing intelligent information systems which provide the same characteristics associated with intelligence in human behavior. It operates by dealing with the description of objects, events, and processes through their qualitative properties and logical as well as computational relationships in an intelligent way. Moreover, it is concerned with building programs capable of studying and performing repetitive activities carried out by humans.”(Adel Amirhem, 2022, p. 256)

Based on the above, it can be stated that artificial intelligence represents a key outcome of the digital transformation the world is experiencing today. It encompasses intelligent systems capable of dealing with sensitive situations faced by humans, while also enabling them to perform multiple tasks with minimal effort and cost at the same time.

2.2.AI Applications in Accounting and Auditing

Artificial intelligence (AI) is considered one of the most prominent modern technological tools of our time, elevating practices to levels never experienced before. This comes in the context of the digital transformation the world is witnessing today, along with increasing demands from practitioners in the accounting and auditing professions for intelligent applications

that support them in performing their tasks. Such applications contribute by automating routine processes, improving the quality and accuracy of financial information—commonly referred to as digital accounting—and enhancing auditors' ability to detect errors and fraud more quickly and effectively. Moreover, these applications enable the processing of massive amounts of data in record time, paving the way for what is now referred to as electronic or digital auditing.

2.2.1. Applications of Artificial Intelligence in Accounting : Digital accounting is based on four fundamental components, as recognized by specialists, namely: Cloud Computing, Artificial Intelligence, Blockchain, and Big Data.

Cloud computing : Cloud computing is a modern and advanced technology that relies on transferring computer processing and storage space to what is known as the cloud, which consists of servers dedicated to processing and storing information and accessed through the Internet. Users can reach it via any modern electronic devices, with a high degree of security, thus saving them considerable time, effort, and cost.

In the field of accounting, cloud-computing technology facilitates numerous accounting tasks, such as the preparation of various basic accounting documents, procedures related to tax payments and different contributions, as well as complex calculations and the preparation of necessary statistics. It also supports the detection of manipulations and fraudulent practices, in addition to data analysis and control operations. (Boukhdimi, 2024, p. 160)

Among the advantages offered by cloud computing are the following:

- Cloud computing services provide real-time data flow and enhance the availability of data across all departments within the company.
- The cloud system is less costly compared to purchasing accounting software that needs to be installed on every computer, thereby helping to reduce financial burdens.
- The flexibility of cloud computing allows access to data regardless of location. Cloud users are not restricted to office computers, which increases productivity. Moreover, these systems enable the direct transfer of inventory data into the accounting system, followed by the execution of supply operations.

Big Data : The concept of Big Data refers to large and complex sets of data characterized by their: volume, variety, and velocity, which exceed the capabilities of traditional data processing systems in terms of storage and analysis.

This concept is based on three main components, which are as follows:

- The volume of information;
- The speed at which information is generated;
- The variety of data types originating from different sources.

In the accounting field, Big Data has played a significant role in the evolution of accounting by introducing predictive models specific to this domain. These models provide high-quality data that can be processed in real time, enabling the generation of more accurate and reliable reports. (Berhouma & Habi, 2023, p. 686)

Blockchain Technology : Blockchain can be described as a sequence of interconnected blocks, where each block stores specific data and is linked to the previous one in chronological order. This entire chain is distributed across all servers (nodes) in the network, ensuring that the system remains secure as long as at least one server continues to operate.

Compared with traditional networks, blockchain has two core features: the immutability of data and its decentralized nature. Based on these two features, the information recorded by

blockchain are considered more trustworthy and reliable, providing an effective solution to issues of mutual distrust between parties. (Zhenpeng and others, 2023, p. 02)

The use of this remarkable technology by companies will enable them to establish new accounting systems capable of recording and verifying transactions on a fully secure general ledger. In such systems, managers, accountants, business partners, and even investors will be able to carry out and verify transactions in real time, without any concern regarding data integrity. (Sakharawi & Alimi, 2023, p. 11)

2.2.2. The Impact of Artificial Intelligence Technologies on Accounting

Amid the accelerating wave of digital transformation, the use of artificial intelligence in accounting represents a major shift in how accounting tasks are performed. It plays a significant role in improving the quality of financial information by automating numerous routine tasks that previously required considerable time and effort from accountants. In addition, AI has the capability to analyze vast amounts of data in record time, in addition to its ability to detect errors and financial irregularities at an early stage.

Below, we present the key benefits and impacts that the use of artificial intelligence brings to the accounting profession:

- Automation of Accounting Tasks
- Digitization of Documents and Dematerialization
- Evolution of Skills and Roles
- Impacts on Employment and the Nature of Work
- Improvement of Decision-Making
- Reduction of Operational Costs

2.2.3. Applications of artificial intelligence in the Auditing : Audit tasks have increasingly required acceleration, especially when it comes to auditing large-scale companies that possess a vast amount of documents and records. Audit quality may also be affected when gaps or risks are not identified and communicated to stakeholders in a timely manner.

For example, some auditing firms use the AuditMap.ai platform to read and analyze thousands of reports and records in multiple languages. This platform also assists in audit planning and execution.

Below are some of the key areas where artificial intelligence technologies are applied in the auditing process: (Boubaaba & El-Wafi, 2021, pp. 358-359)

- Using machine learning to identify risks;
- Using deep learning for image recognition;
- Applying natural language processing (NLP) in the auditing process;
- Using robotic process automation (RPA) to collect data.

In this context, KPMG stands out as one of the leading firms investing in this field, having developed the intelligent platform “**KPMG Clara**”, which integrates advanced analytics, process automation, and enhanced auditor effectiveness in delivering high-quality services.

Moreover, KPMG has strengthened its technological partnerships with leading global companies such as Microsoft by integrating Azure cloud services into its auditing platforms, enabling the automation of numerous processes and expanding the scope of data analysis.

This digital transformation has not only improved efficiency but also contributed to creating a secure, flexible, and more client-oriented auditing environment that meets the growing demands across different sectors.

2.2.4. The Contribution of Artificial Intelligence to the Auditing Profession : (AI has brought a fundamental transformation to the auditing profession, reshaping the way financial data is collected, analyzed, and interpreted up to the issuance of the final report. Its integration into professional practices has led to a significant improvement in performance and quality, enabling auditors to focus on analytical tasks and professional judgments based on accurate and reliable data, thereby enhancing the efficiency, objectivity, and overall quality of the auditing process and the resulting financial reports.

The contribution of artificial intelligence to the auditing profession can be summarized in the following points:(Samahdan & Salmo, p. 09)

- The role of AI in enhancing audit quality
- AI's contribution to examining the entire statistical population
- The ability of AI to detect fraud
- Increasing efficiency through automation
- The shift from traditional auditing to continuous auditing
- Building stronger relationships with audit clients

3. The Applied Aspect

3.1.Presentation of the Research Instrument

The questionnaire technique was employed as the primary tool for collecting data from the study sample, which consisted of 82 respondents. The questionnaire is structured around two main axes, with each axis comprising ten (10) statements.

A five-point Likert scale was adopted, and the response scale for the study items was defined as presented in the following table:

Table 01. Five-Point Likert Scale

Scale Value	1	2	3	4	5
ResponseCategory	StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
WeightedMean	1,10 - 1,79	1,80-2,59	2,60-3,39	3,40-4,19	4,20-5,00

Source: (Al-Muqabala , 2013, p. 113)

3.2.Reliability of the Research Instrument

To assess the reliability of the questionnaire, Cronbach's Alpha test was used in addition to the validity coefficient, which was calculated by taking the square root of Cronbach's Alpha (also known as criterion validity). The results of Cronbach's Alpha coefficient and the validity coefficient are presented in the following table:

Table 02. Cronbach's Alpha and Validity Coefficient for the Questionnaire

Axis	Number of Items	Cronbach's Alpha	Validity Coefficient
Axis 01: Positive Impacts of Artificial Intelligence Applications on the Accounting and Auditing Profession	10	0,994	0,996
Axis 02: Negative Impacts of Artificial Intelligence Applications on the Accounting and Auditing Profession	10	0,991	0.995
Questionnaire as a whole	20	0,992	0.995

Source: Prepared by the researcher based on SPSS V25 outputs.

The results of the reliability and validity test of the questionnaire showed that all the calculated Cronbach's Alpha values exceeded the acceptable threshold of 0.60. Specifically, the reliability of the first axis was (0.994), the second axis was (0.991), while the overall reliability of the questionnaire reached (0.992). These very high values indicate that the research instrument enjoys a high degree of internal consistency, and that the items within each axis accurately and reliably measure the same construct.

Furthermore, the validity coefficients reached approximately (0.995) for all axes, which reflects a high level of construct validity, meaning that the questionnaire effectively measures the concepts it was designed to assess. Based on these results, it can be concluded that the research instrument possesses a high degree of reliability and validity, making it a suitable and trustworthy tool that can be relied upon for statistical analysis and drawing conclusions.

3.3.Presentation and Discussion of the Results of the Study Sample

The following table presents the summary of data related to the study sample, as follows:

Table 03. Description of the Characteristics of the Study Sample

	Detail	Frequency	Percentage %
Educational Qualification	Bachelor'sDegree	28	34,15
	Master'sDegree	14	17,07
	Magister or Equivalent	22	26,83
	Doctorate	18	21,95
	Total	82	100
Profession	Academics / Researchers in Accounting and Auditing	16	19,51
	ExternalAuditors	28	34,15
	InternalAuditors	13	15,85
	Accountants	25	30,49
	Total	82	100
Professional Experience	Lessthan 5 years	10	12,20
	5 to 15 years	22	26,83
	16 to 25 years	32	39,02
	More than 25 years	18	21,95
	Total	82	100

Source: Prepared by the researcher based on SPSS V25 outputs.

▪ **Academic Qualifications:** The data reveal that a considerable portion of the sample holds postgraduate degrees (Master's and PhD), jointly accounting for nearly half of the participants. This reflects the academic and research orientation of a substantial segment of respondents. At the same time, bachelor's degree holders represented a relatively larger proportion, indicating the presence of practitioners from the field. This balance between academic and practical backgrounds enriches the discussion by providing both theoretical and applied perspectives.

▪ **Profession:** The table shows that external auditors and accountants constitute more than 60% of the sample, highlighting the practical, field-oriented nature of the study, as these groups are directly involved in the use of artificial intelligence in their work environment. Meanwhile, academics and internal auditors jointly represented nearly 35% of the sample, thereby ensuring the inclusion of research-based and oversight-oriented perspectives. Such a distribution allows for a meaningful comparison between groups actively applying AI in practice and those examining or evaluating it from theoretical and regulatory standpoints.

▪ **Experience:** The results demonstrate that most participants possess medium to long professional experience (ranging from 16 to over 25 years). This indicates that the views expressed are largely grounded in substantial cumulative expertise in accounting and auditing. Although the proportion of respondents with limited experience was relatively small, their inclusion provides an additional dimension, representing the younger generation of practitioners who may be more receptive to emerging technologies.

The distribution of the study sample reflects a high degree of diversity and balance, combining different academic levels, professional categories, and ranges of experience. This diversity strengthens the study's findings by enabling the detection of significant differences in how artificial intelligence is perceived across groups, thus making the conclusions more comprehensive and objective.

3.4. Presentation and Discussion of the Results of Axis One

Table 04. Responses of the Study Sample Regarding the Statements of Axis One

Statement	Mean	Std. Deviation	General Trend	Rank
1. AI can create new job opportunities related to the development and management of intelligent systems in accounting and auditing.	3,84	,999	Agree	5
2. AI helps provide financial information characterized by greater accuracy and reliability.	3,90	1,013	Agree	2
3. AI enables auditors to detect fraud cases faster and more effectively.	4,05	,954	Agree	1
4. Smart applications assist in monitoring financial transactions in real time.	3,55	1,177	Agree	10
5. AI applications help reduce errors caused by human factors.	3,88	1,046	Agree	4
6. AI helps auditors accelerate audit processes and enhance their predictive capabilities.	3,80	1,047	Agree	7
7. AI applications enable accountants and auditors to handle large volumes of data more quickly and accurately.	3,90	1,037	Agree	3
8. Relying on intelligent systems reduces doubts about manipulation or human errors.	3,72	1,146	Agree	8
9. AI applications contribute to building client trust by allowing them to monitor audit processes in real time.	3,81	1,047	Agree	6
10. AI applications enable accountants and auditors to focus more on analytical tasks by automating routine activities.	3,62	1,150	Agree	9
Axis as a whole	3,81	1,05	Agree	

Source: Prepared by the researcher based on SPSS V25 outputs.

The results of the table above indicate that the overall mean score reached (3.81), which corresponds to the fourth level on the five-point Likert scale. This reflects a general tendency among the respondents to agree on the existence of positive impacts of AI applications on the accounting and auditing profession. The standard deviation was (1.05), indicating a moderate variation in the responses of the study sample.

The statement **AI enables auditors to detect fraud more quickly and effectively** ranked first (M=4.05, SD=0.954), followed by **AI helps provide more accurate and reliable financial information** and **AI applications allow handling of large datasets quickly and accurately** (M=3.90). This highlights a strong conviction of the role of AI in enhancing **accuracy, reliability, and operational efficiency**.

In the same context, the statement related to **AI creates new job opportunities related to intelligent systems** (M=3.55, SD=1.177) ranked fifth, where the study sample believes that the

increased use of AI applications could generate new job opportunities, particularly in the areas of privacy and cybersecurity systems.

Accordingly, it can be concluded that the respondents clearly recognize the **technical and operational advantages** of AI in accounting and auditing, while at the same time adopting a **more cautious stance** regarding its effects on certain professional practices.

3.5.Presentation and Discussion of the Results of Axis Two

Table 06. Responses of the Study Sample Regarding the Statements of Axis Two

Statement	Mean	Std. Deviation	General Trend	Rank
1. AI applications may lead to the loss of some traditional jobs in accounting and auditing.	3,19	1,373	Neutral	8
2. Reliance on AI may weaken the traditional skills of accountants and auditors in performing their work.	3,10	1,393	Neutral	10
3. The increasing reliance on AI applications reduces dependence on human expertise in making professional judgments.	3,18	1,325	Neutral	9
4. The high costs of acquiring and maintaining AI systems may pose a burden on users in the accounting and auditing field.	3,66	1,124	Agree	4
5. The absence of clear legal and regulatory frameworks for the use of AI represents a source of concern for the profession.	4,00	1,042	Agree	1
6. Financial data prepared using AI technologies is more exposed to privacy and cybersecurity risks.	3,83	1,163	Agree	2
7. AI system outputs may sometimes lack accuracy or reliability.	3,55	1,187	Agree	6
8. Determining the party responsible for errors caused by intelligent systems represents a real challenge.	3,41	1,246	Agree	7
9. The lack of transparency in some AI algorithms makes it difficult to interpret their results.	3,79	1,119	Agree	3
10. AI systems may lack adaptability to the specific characteristics of the local legislative or economic environment.	3,57	1,197	Agree	5
Axis as a whole	3,53	1,22	Agree	

Source: Prepared by the researcher based on SPSS V25 outputs.

The results of the table show that the overall mean of respondents' opinions regarding the negative impacts of AI applications on the accounting and auditing profession was (3.53), reflecting a general tendency toward **acknowledging the existence of real challenges** associated with the use of these applications, albeit at a moderate level. The overall standard deviation was (1.22), indicating a considerable variation among respondents' views on the severity of these challenges.

It was found that the statements most agreed upon were those related to the **absence of clear legal and regulatory frameworks** (mean = 4.00), followed by concerns associated with **privacy and cybersecurity risks** (mean = 3.83) and **lack of transparency in some algorithms** (mean = 3.79). This highlights a strong awareness of risks related to the legislative environment and information security.

Based on these findings, it can be concluded that the challenges most concerning to respondents are primarily concentrated in the **legislative, security, and technical domains**, rather than being linked to jobs or human capabilities. This opens the door for policymakers to focus their efforts on establishing clear legal and regulatory frameworks, strengthening information security systems, and investing in the development of professional capacities capable of adapting to digital transformation.

3.6. Testing the Study Hypotheses

In order to verify the validity of the study hypotheses, the “**One-Sample T-Test**” was applied at a significance level of Sig (α), according to the following decision rule:

- Accept the null hypothesis (**H0**) if Sig (α) > 0.05;
- Accept the alternative hypothesis (**H1**) if Sig (α) < 0.05.

3.6.1. Testing the First Hypothesis : This hypothesis states that artificial intelligence applications have tangible positive impacts on the quality and efficiency of accounting and auditing work. The hypothesis can be tested as follows:

- **Null Hypothesis (H0):** There is no statistically significant impact of artificial intelligence applications on improving the quality and accuracy of accounting information and auditing processes.
- **Alternative Hypothesis (H1):** There is a statistically significant impact of artificial intelligence applications on improving the quality and accuracy of accounting information and auditing processes.

Table 07. T-Test for the First Hypothesis

Test Value = 05

Axis	T Value	Degrees of Freedom (ddl)	Significance (Sig)	Mean Difference	95% Confidence Interval	Lower Bound	Upper Bound
First Axis	28,932	81	0.000	33,07317	95%	30,7987	35,3477

Source: Prepared by the researcher based on SPSS V25 outputs.

The results of testing the first hypothesis concerning the positive impacts of AI indicate that the Sig value was ($0.000 < 0.05$), which requires rejecting the null hypothesis (H0) and accepting the alternative hypothesis (H1), stating that AI applications have statistically significant positive effects on the accounting and auditing profession. The high T-value (28.932) reflects the strength of the difference between the actual mean of the study sample and the hypothesized value, thereby enhancing the reliability of the result.

Accordingly, it can be concluded that the respondents acknowledge the tangible positive impacts of AI applications, particularly in improving the quality and accuracy of financial information, enhancing operational efficiency, and supporting more effective auditing practices.

3.6.2. Testing the Second Hypothesis : This hypothesis states that there are negative impacts and challenges associated with the use of artificial intelligence applications in the accounting and auditing profession. The hypothesis can be tested as follows:

- **Null Hypothesis (H0):** There are no statistically significant negative impacts of artificial intelligence applications on the accounting and auditing profession.
- **Alternative Hypothesis (H1):** There are statistically significant negative impacts of artificial intelligence applications that may cause risks to the accounting and auditing profession.

Table 08. T-Test for the Second Hypothesis

Test Value = 05

Axis	T Value	Degrees of Freedom (ddl)	Significance (Sig)	Mean Difference	95% Confidence Interval	Lower Bound	Upper Bound
Axis Two	23,375	81	0.000	30,29268	95%	27,7142	32,8712

Source: Prepared by the researcher based on SPSS V25 outputs.

In light of the results presented in the table above, it is evident that $\text{Sig} (\alpha) < 0.05$, as its value was estimated at 0.000 (0%). Accordingly, the null hypothesis is rejected, and the alternative hypothesis is accepted, which states that there are statistically significant negative effects of artificial intelligence applications on the accounting and auditing profession. Furthermore, the high T-value (23.375) reflects the strength of the differences between the actual mean and the hypothesized value, thereby reinforcing the reliability of the result.

Based on the above and on the results obtained from the responses in the second axis, it can be concluded that the study sample perceives the existence of real challenges and risks associated with the use of artificial intelligence applications in the accounting and auditing profession, particularly those related to the absence of legal and regulatory frameworks, cybersecurity risks, and the difficulty of determining responsibility in the event of errors linked to the use of such applications. This highlights the necessity of developing mechanisms to ensure the benefits of these applications are utilized while establishing mechanisms to minimize their potential drawbacks.

3.6.3. Testing the third Hypothesis : To test the possibility of statistically significant differences between the responses of the study sample according to their demographic characteristics, we will use the One-Way ANOVA test at a significance level of $\text{Sig} (\alpha) = 5\%$. The decision rule is as follows:

- **Accept the null hypothesis (H0) if $\text{Sig} (\alpha) > 0.05$;**
- **Accept the alternative hypothesis (H1) if $\text{Sig} (\alpha) < 0.05$.**

After conducting the analysis of variance, we obtained the results shown in the following table:

Table 09. ANOVA test for the variance of the study axes according to demographic variables

Axes	Facteur	F	Sig
Axis One	Educational Qualification	1,533	,213
	Profession	1,837	,147
	Professional Experience	8,540	,000
Axis Two	Educational Qualification	5,455	,002
	Profession	4,218	,008
	Professional Experience	16,221	,000

Source: Prepared by the researcher based on SPSS V25 outputs.

3.6.3.1. Testing the first sub-hypothesis through the first axis

We conducted an analysis of variance (ANOVA) on the responses of the study sample regarding the statements of the first axis in the questionnaire, which was designed to highlight the positive impacts of AI applications on accounting and auditing.

- **ANOVA test for the variance of the First Axis by Educational Qualification variable**

To determine whether there is a variance or not, we rely on the following hypotheses:

- **Null Hypothesis (H0):** There are no statistically significant differences in the responses of the study sample toward the first axis due to variations in the educational qualification of the respondents.
- **Alternative Hypothesis (H1):** There are statistically significant differences in the responses of the study sample toward the first axis due to variations in the educational qualification of the respondents.

Based on the results of the above table (Table 09), it is observed that the value of Sig (α) >5%, as it was estimated at 0.213 (21.3%). Accordingly, we reject the alternative hypothesis and accept the null hypothesis, confirming that there are no statistically significant differences in the responses of the study sample regarding the statements of the first axis due to variations in the educational qualification of the respondents, which consisted of four qualification levels.

▪ ANOVA test for the variance of the First Axis by profession variable

To determine whether there is a variance or not, we rely on the following hypotheses:

- **Null Hypothesis (H0):** There are no statistically significant differences in the responses of the study sample toward the first axis due to variations in their professional roles.
- **Alternative Hypothesis (H1):** There are statistically significant differences in the responses of the study sample toward the first axis due to variations in their professional roles.

Based on the results of the above table (Table 09), it is observed that the value of Sig (α) >5%, as it was estimated at 0.213 (21.3%). Accordingly, we reject the alternative hypothesis and accept the null hypothesis, confirming that there are no statistically significant differences in the responses of the study sample regarding the statements of the first axis due to variations in their professional roles, which consisted of four levels.

▪ ANOVA test for the variance of the First Axis by professional experience variable

To determine whether there is a variance or not, we rely on the following hypotheses:

- **Null Hypothesis (H0):** There are no statistically significant differences in the responses of the study sample toward the first axis due to variations in the respondents' years of professional experience.
- **Alternative Hypothesis (H1):** There are statistically significant differences in the responses of the study sample toward the first axis due to variations in the respondents' years of professional experience.

Based on the results of the above table (Table 09), it is observed that the value of Sig (α) <5%, as it was estimated at 0.000 (0%). Accordingly, we reject the null hypothesis and accept the alternative hypothesis, confirming that there are statistically significant differences in the responses of the study sample regarding the statements of the first axis due to variations in the respondents' years of professional experience.

3.6.3.2. Testing the second sub-hypothesis through the second axis

▪ ANOVA test for the variance of the second Axis by Educational Qualification variable

To determine whether there is a variance or not, we rely on the following hypotheses:

- **Null Hypothesis (H0):** There are no statistically significant differences in the responses of the study sample toward the second axis due to variations in the educational qualification of the respondents.

- **Alternative Hypothesis (H1):** There are statistically significant differences in the responses of the study sample toward the second axis due to variations in the educational qualification of the respondents.

Based on the results of the above table (Table 09), it is observed that the value of Sig (α) < 5%, as it was estimated at 0.002 (0.2%). Accordingly, we reject the null hypothesis and accept the alternative hypothesis, confirming that there are statistically significant differences in the responses of the study sample regarding the statements of the second axis due to variations in the respondents' educational qualification, which consisted of four levels.

- **ANOVA test for the variance of the second Axis by profession variable**

To determine whether there is a variance or not, we rely on the following hypotheses:

- **Null Hypothesis (H0):** There are no statistically significant differences in the responses of the study sample toward the second axis due to variations in their professional roles.
- **Alternative Hypothesis (H1):** There are statistically significant differences in the responses of the study sample toward the second axis due to variations in their professional roles.

Based on the results of the above table (Table 09), it is observed that the value of Sig (α) < 5%, as it was estimated at 0.008 (0.8%). Accordingly, we reject the null hypothesis and accept the alternative hypothesis, confirming that there are statistically significant differences in the responses of the study sample regarding the statements of the first axis due to variations in their professional roles.

- **ANOVA test for the variance of the second Axis by professional experience variable**

To determine whether there is a variance or not, we rely on the following hypotheses:

- **Null Hypothesis (H0):** There are no statistically significant differences in the responses of the study sample toward the second axis due to variations in the respondents' years of professional experience.
- **Alternative Hypothesis (H1):** There are statistically significant differences in the responses of the study sample toward the second axis due to variations in the respondents' years of professional experience.

Based on the results of the above table (Table 09), it is observed that the value of Sig (α) < 5%, as it was estimated at 0.000 (0%). Accordingly, we reject the null hypothesis and accept the alternative hypothesis, confirming that there are statistically significant differences in the responses of the study sample regarding the statements of the second axis due to variations in the respondents' years of professional experience.

4. Conclusion

In light of the findings, it is evident that AI applications represent a qualitative leap in digital transformation and are no longer a secondary option in the field of accounting and auditing, but rather a strategic necessity for reshaping traditional practices in line with the requirements of the global economy driven by the digital revolution. The study revealed that AI has tangible positive impacts in improving the quality and accuracy of financial information, enhancing operational efficiency, and accelerating auditing and fraud detection processes, thereby contributing to the improvement of professional practices. However, these advantages are accompanied by numerous challenges that cannot be overlooked, most notably the absence of clear legal and regulatory frameworks, risks related to privacy and cybersecurity, and difficulties in assigning responsibility when errors are caused by intelligent systems.

4.1. Results of the Study

Among the most important findings reached through the current study are the following:

- The results showed that the majority of the sample possess a medium to high level of awareness and knowledge regarding AI applications, which provides a knowledge base upon which the integration of these technologies into professional practices can be built.
- The findings confirmed the presence of statistically significant positive effects of AI applications on the accounting and auditing profession, mainly reflected in improving the quality and accuracy of financial information, enhancing operational efficiency, accelerating audit processes, and enabling early fraud detection.
- The results also indicated that the respondents recognize the existence of real challenges associated with the use of AI, the most prominent being: the absence of clear legislative and regulatory frameworks, privacy and cybersecurity risks, difficulties in determining responsibility for errors, in addition to concerns about the potential loss of traditional jobs.
- Hypothesis testing: T-Test and ANOVA analyses supported the main hypotheses, as statistically significant differences were found in some cases depending on demographic characteristics (such as professional experience), while no significant differences were observed in other cases (such as educational qualification and job role).

4.2. Study Recommendations

Based on the obtained results, we present the following recommendations:

- Establish a comprehensive legal and regulatory framework to govern the use of AI in accounting and auditing, ensuring transparency and professional accountability;
- Strengthen cybersecurity and data protection systems to mitigate risks related to information privacy, confidentiality, and protection against breaches;
- Invest in continuous training and professional development by launching specialized programs that equip accountants and auditors with the skills to use AI tools and adapt their practices to digital transformation;
- Encourage scientific research and innovation in AI applications for accounting and auditing to ensure the development of solutions aligned with both local and international digital transformation needs;

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